



Zero Hidden Hunger: From Nariño to Colombia

This document presents evidence and recommendations to tackle the problem of ‘hidden hunger’ (a chronic lack of micronutrients that often presents no visible signs) which is present in 15.9% of children under five in Colombia (ENSIN 2010), and specifically in Nariño region. Nariño has a high concentration of indigenous and rural communities living in poverty, who comprise a total of approximately 155,400 people spread across 60 resguardos (reservations), according to 2010 projections based on the Colombian Department of Statistics (DANE) 2005 Census.

The project *Improving Potato Production for Increased Food Security of Indigenous Communities in Colombia* (SAN Nariño), led by the Universidad Nacional de Colombia and Canada’s McGill University, sought to improve food security in native communities through the selection of potato cultivars with high yields and nutritional content and through the development of participatory research into good agricultural and post-harvest practices. It also facilitated the empowerment of women, to improve nutritional habits and the provision of sound information for the design and implementation of public policies on food and nutritional security.

In recent years, national and departmental governments in Colombia have boosted food programmes aimed at children, developing

Did you know that in Nariño...?

- Children under five have twice the nutritional deficiencies in zinc and iron than the rest of the country (ENSIN 2010).
- The menus in government meal programmes include yellow potatoes twice a week and white potatoes three times a week.
- The yellow potatoes developed in the SAN Nariño Project have a higher nutritional content, which will contribute to improving food security among children if their consumption is expanded.
- Women play a central role in agricultural labour and in the care and nutrition of families, as they perform diverse tasks in production, family care, and food preparation and distribution within the family.

comprehensive strategies covering ages from early childhood up to 18 years. In so doing, they have linked the ‘De Cero a Siempre’ (‘From Zero to Always’) strategy and the Programa Nacional de Alimentación Escolar (PAE) - the National School Feeding Programme, coordinated by the Ministry of Education - in order to provide continuous, state-supported nutritional care.

The potato is a staple of the local diet in Colombia, and specifically in Nariño. Improved potatoes, as explained in this document, can contribute to the quality of local diets, particularly those of the youngest poor children, through their inclusion in existing food programmes, without added costs and with direct nutritional benefits.

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What are the issues?

The Colombian National Survey of the Nutritional Situation (ENSIN) 2010 revealed a high prevalence of iron-deficiency anemia among children in Colombia. In Nariño, according to research by the Universidad Nacional de Colombia, three out of every ten children under five years of age suffer from iron deficiency and four out of every ten suffer from zinc deficiency.

In Nariño, white and yellow potatoes are among the most widely consumed foods. As shown in Graph 1, potatoes are consumed every day in nearly 100% of homes in Nariño.

The consumption of these foods, especially the potato, is extremely important, because the volumes ingested constitute the energy intake of the poorest communities of this region, with a greater influence on children aged under five (See Graph 2).

The nutrition and food services delivered through the De Cero a Siempre and the PAE programmes provide daily hot meals to 6,675,000 children across the country and to more than 238,000 in Nariño. These meals are provided both for early childhood and school children and are designed in accordance with the guidelines of the Colombian Institute of Family Welfare (ICBF) and the National Ministry of Education. There is now an opportunity to introduce the improved native potatoes developed by the SAN Nariño project into the meals because of their higher micronutrient content.

How did we improve Nariño's potatoes?

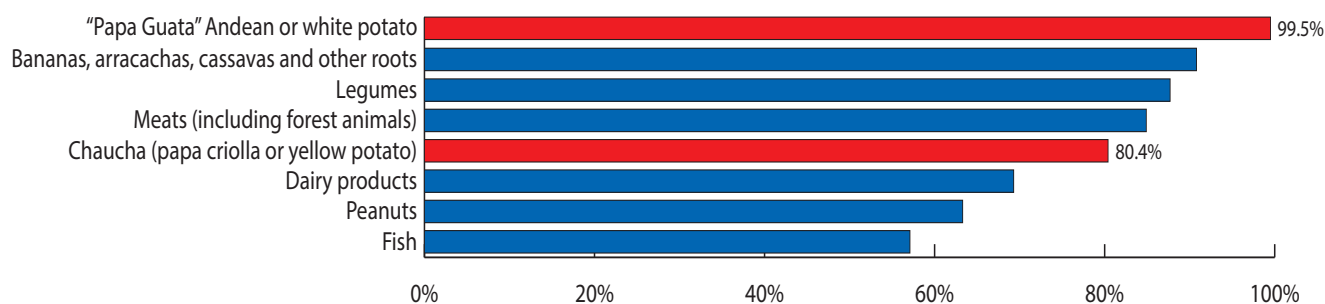
The SAN Nariño Project represents a significant and innovative advance in research, in which a conventional process of crossing of varieties (hybridization) makes it possible to accelerate the natural process, to the benefit of communities linked to the potato agri-food chain.

Hybridization involves crossing selected potato plants (progenitors) to obtain numerous offspring plants, and then selecting from these the varieties that present the desired characteristics (e.g. higher yields, resistance to disease, higher iron and zinc content). These varieties are delivered to the communities, who sow them, harvest them and then in turn choose the ones they like most through a rigorous selection process conducted over at least six years in different locations.

The acceptance of the improved varieties of yellow potatoes in the communities occurred naturally, as the final research process of selection was based on the participation of farmers, who made the final selection of the best cultivars with the support of the researchers.

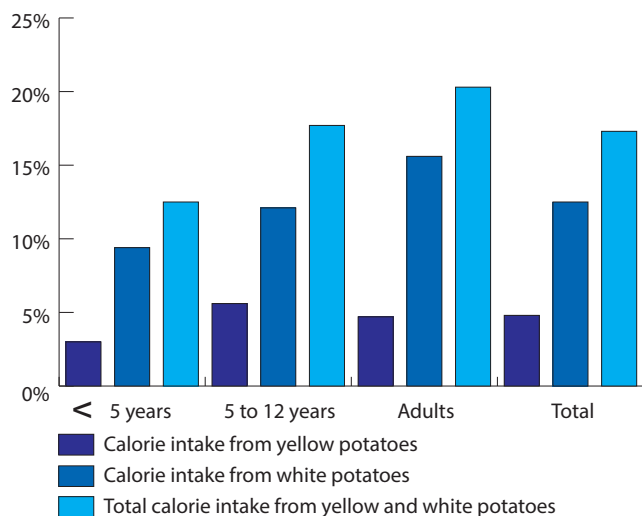
The project contributed to the final stage in the development of three varieties of yellow potato with higher nutritional quality, expressed in higher iron and zinc levels than those used currently in the above mentioned food programmes, as shown in Graph 3.

These varieties also have high yields and lower production costs, representing revenues for farmers that are 18% higher than the most productive commercial yellow variety.



Graph 1: Average monthly food consumption

Graph 2: Contribution of potatoes (%) to daily calorie intake by age group



This constitutes an incentive for rural and indigenous small-scale farming communities, which have traditionally been linked to the potato agri-food chain in Nariño and throughout Colombia.

What are the policy implications?

The recommendation made here is simple. Given that potatoes are eaten every day in nearly every home in Nariño and many children suffer from iron and zinc deficiencies, and that the SAN Nariño Project identified precisely those potatoes with higher iron and zinc content, the inclusion of improved potatoes in government meal programmes for children in Nariño would increase micronutrient intake and reduce hidden hunger. These potatoes should therefore be added immediately to the menus.

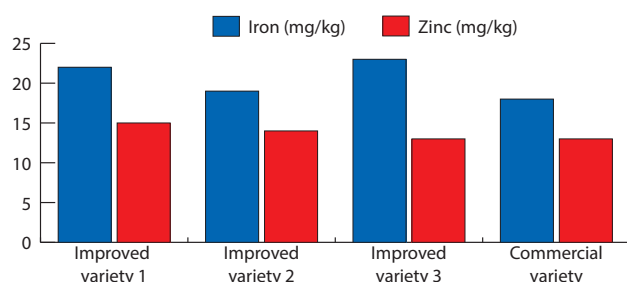
This proposal underscores the importance of public policy coordination. At the national level, the Ministry of Agriculture and Rural Development, the Ministry of Education and the ICBF should integrate guidelines and actions to eliminate hidden hunger in the child population in Colombia in general and in Nariño in particular.



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Harvesting the new yellow potatoes with higher nutritional content compared to current commercial varieties

Graph 3: Iron and zinc concentration in yellow potato



It is therefore recommended that the Ministry of Education and the ICBF establish mechanisms to ensure that current food programmes (De Cero a Siempre, PAE, and any programmes implemented in the future) include Nariño's improved yellow potatoes, in order to contribute to the elimination of hidden hunger.

Specifically, it is proposed that the Ministry of Education and the ICBF establish agreements to guarantee a purchase volume to supply the meals programmes that will ensure a profitable and sustainable demand for Nariño's farmers, promoting the welfare and quality of life of these communities.

In addition, in adherence to the national policy to promote family agriculture, which establishes a legal requirement upon institutions to obtain their supplies from local produce, it is possible not only to promote the production of Nariño's improved potatoes but also to develop complementary crops that will contribute to food security through increased diet quality and diversity.

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